



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/556,392	11/10/2005	Helmut Winterling	12810-00162-US1	6284
30678 7590 07/26/2007 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20036			EXAMINER LISTVOYB, GREGORY	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 07/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/556,392

Applicant(s)

WINTERLING ET AL.

Examiner

Gregory Listvoyb

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/10/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/16/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

Claims 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Based on Abstract and Inventive Example 1 of the Application the Applicant uses either 2-methyl-1,5-diaminopentane or 1-amino-2-R-cyclopent-1-ene.

For the purpose of this rejection, the Examiner assumes that 2-methyl-1,5-diaminopentane of Claim 7 is equal to 1-amino-2-R-cyclopent-1-ene of Claim 1.

***Claim Rejections - 35 USC § 102/103***

Claims 1-3 and 8-15 rejected under 35 U.S.C. 102/103 as being unpatentable over Shyu et al (US 4739035) herein Shyu or Mohrschladt et al (US 6569988) herein Mohrschladt as evidenced by Lambert et al (US 3859329) herein Lambert or Moore et al (US 3950229) herein Moore.

Shyu or Mohrschladt (see Claim 1) (see Column 8, line 15) disclose a method for production of a polyamide from 6-aminocapronitrile.

Art Unit: 1711

Lamber or Moore evidence that commercial 6-aminocapronitrile always contains about 0.5% -0.6% wt of cyanocyclopenten-1-amine (see Moore, Examples 1-3 and Lambert, Example 3), which is the same compound, which used in the Application (see Example 2). Even purified, 6-aminocapronitrile contains 0.01-0.03% of cyanocyclopenten-1-amine (see Moore, Example 2 and Lambert, Example 1).

Therefore, Shyu or Mohrschladt processes lead to a polyamide, inherently having cyanocyclopenten-1-amine in the range of from 0.001 mol% to 2 mol%, which is capable of combining with an amino group to form an amide group.

In reference to claim 11, Shyu discloses a polyamide capable to form fibers (see Abstract).

The limitations of Claims 10 and 13 about conversion of oligomers to polyamide is noticed and fully considered. It is well known that during a polycondensation the oligomers (comparatively low molecular weight condensate) form in the initial step of the reaction. Therefore, this limitation is inherently met.

### ***Claim Rejections - 35 USC § 102***

Claims 1 and 7 rejected under 35 U.S.C. 102(b) as being anticipated by Ogo et al (US 6117942) herein Ogo.

Art Unit: 1711

Ogo discloses a semiaromatic polyamide comprising 1-45 mol % of alkylenediamine (see Claim 1), which is 2-methyl-1,5-diaminopentane (see Claim 4).

***Claim Rejections - 35 USC § 102/103***

Claims 1, 4-6, 14-17 rejected under 35 U.S.C. 102(b) as being unpatentable over Winterling et al (US 6958381 and WO02/42357) herein Winterling.

Winterling discloses a polyamide comprising chemically bound cyclopentane carboxylic acid (-R-cyclopent-1-ene), which is chemically bound into polyamide main chain and capable to form an amide group (see Column 5, line 1).

Since Winterling discloses a polyamide for injection molding (i.e. Mn is at least 20K) and the above carboxylic acid has only one functionality (meaning that one macromolecule may have only one or two cyclopentane carboxylic acid), Winterling's polyamide inherently has between 0.001-2 mol % of the cyclopentane carboxylic acid meeting the limitations of Claims 1, 14 and 16.

Regarding Claims 5 and 6 Winterling discloses methyl, ethyl, propyl and other esters present in the structure of his polyamide.

***Claim Objections***

Art Unit: 1711

Claim 17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

A polyamide whose main chain comprises chemically bound 1-amino-2-R-cyclopent-1-ene wherein R is selected from the group consisting of carboxylic ester where R is present at a level in the range from 0.001 mol% to 2 mol%, based on 1 mol of acid amide groups of the polyamide is not found in Prior Art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1711

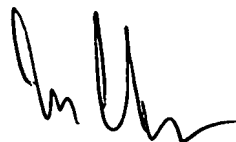
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb  
Examiner  
Art Unit 1711

GL  
\*\*\*

Application/Control Number: 10/556,392  
Art Unit: 1711

Page 7

A handwritten signature in black ink, appearing to read 'J. Seidleck', with a stylized, cursive script.

James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700